

CLAIMS

What is claimed is:

1. A light emitting device comprising a cyan LED and a phosphor composition positioned to receive light from said cyan LED, the phosphor composition capable of absorbing light from said cyan LED and emitting red light.
2. The light emitting device of claim 1, wherein the device is a white-light emitting device.
3. The light emitting device of claim 1, wherein the phosphor composition emits light having a wavelength in the range of about 600 to about 650 nm.
4. The light emitting device of claim 1, wherein the phosphor composition is a conformal coating disposed on a surface of the cyan LED.
5. The light emitting device of claim 4, wherein the conformal coating is between about 15 micrometers and about 150 micrometers thick.
6. The light emitting device of claim 1, wherein the cyan LED is disposed in a recess formed in a substrate and the phosphor composition is disposed on a surface of the substrate, wherein the surface is reflective.
7. The light emitting device of claim 6, wherein the phosphor composition comprises a clear polymer matrix having phosphor particles suspended therein, the clear polymer matrix being disposed in said recess around the cyan LED.
8. The light emitting device of claim 1, wherein the phosphor composition is disposed on a surface of a lens positioned adjacent the cyan LED.

9. The light emitting device of claim 1, wherein the phosphor composition comprises a clear polymer matrix having phosphor particles suspended therein, wherein the clear polymer matrix is shaped as a lens, the clear polymer matrix being positioned to receive light from the cyan LED and to direct light from the light emitting device.
10. The light emitting device of claim 1, wherein the phosphor composition comprises a material selected from SrS:Eu^{2+} ; CaS:Eu^{2+} ; $\text{CaS:Eu}^{2+}, \text{Mn}^{2+}$; $(\text{Zn}, \text{Cd})\text{S:Ag}^+$; $\text{Mg}_4\text{GeO}_{5.5}\text{F:Mn}^{4+}$; and ZnS:Mn^{2+} .
11. The light emitting device of claim 10, wherein the phosphor composition comprises a material selected from SrS:Eu^{2+} and CaS:Eu^{2+} .
12. The light emitting device of claim 10, wherein the phosphor composition comprises a material selected from $\text{CaS:Eu}^{2+}, \text{Mn}^{2+}$ and $(\text{Zn}, \text{Cd})\text{S:Ag}^+$.
13. The light emitting device of claim 10, wherein the phosphor composition comprises a material selected from $\text{Mg}_4\text{GeO}_{5.5}\text{F:Mn}^{4+}$; and ZnS:Mn^{2+} .
14. The light emitting device of claim 1, wherein the phosphor composition has a peak emission wavelength in the range of about 620 nm to about 650 nm.
15. The light emitting device of claim 1, wherein the phosphor composition has a peak emission wavelength in the range of about 600 nm to about 625 nm.
16. The light emitting device of claim 1, wherein the phosphor composition comprises phosphor particles having a mean particle diameter in the range of about 13 to about 20 micrometers.